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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20054

In the Matter of	)	
Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service	)	**MM Docket No. 87-268**
Fifth Further Notice of Proposed Rule Making	)	

REPLY COMMENTS OF ZENITH ELECTRONICS CORPORATION

August 12, 1996

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Zenith Electronics Corporation, a long-time leader in consumer electronics and cable technologies and a pioneer in digital television systems (including the development of the digital transmission subsystem of the proposed standard), respectfully submits these reply comments on the above-captioned proceeding.

Zenith joins and strongly endorses the extensive reply comments filed by the Digital HDTV Grand Alliance and Advanced Television Systems Committee (ATSC). Our reply comments, while not repeating the point-by-point responses in

the Grand Alliance and ATSC reply comments, focus on a few points regarding the establishment of the DTV standard -- in particular, (1) the urgent need for the Commission to act now and adopt the full ATSC DTV standard, and (2) unsound critiques by some commenters on interoperability with computers and other media.

As we said in our original comments, Zenith strongly supports the Commission's tentative decision to adopt the entire ATSC DTV standard for use by digital television (DTV) licensees. It is vital that the Commission adopt the ATSC DTV standard swiftly and in its entirety to provide the necessary clear direction and certainty for investors, broadcasters, manufacturers and consumers to begin the transition to digital broadcasting. As broadcasters make the massive investments required to provide digital service, they must be assured that their viewers can purchase compatible receivers in the marketplace. And consumers must be able to buy DTV receivers with the confidence that they will be able to receive program services from all local broadcasters wherever in the country they go.

American consumers will be the ultimate winners benefiting from decisive Commission action, because they will gain access to dramatic improvements in the technical quality of television -- greatly enhancing their home entertainment experience. Consumers also will gain access to a whole new world of information services and, equally important, will have assurance that free, over-the-air television will remain a healthy, vibrant information source in our democratic society.

In light of what some commenters said in their pleadings, the fact remains that the ATSC DTV Standard, based on the Digital HDTV Grand Alliance system, represents the world's best digital broadcast television system, with unmatched

flexibility and "headroom" for future improvements. In addition to the benefits discussed above and in greater detail in our original comments, the swift transition to digital broadcast television will permit the Commission to move to much more efficient use of valuable television spectrum and recapture enormously valuable large blocks of contiguous, nationwide spectrum.

Most commenters in the Fifth Notice joined Zenith, the Digital HDTV Grand Alliance and the Advanced Television Systems Committee, in urging the Commission to adopt the digital television standard without further delay. Comments by opponents of the standard -- who, for a variety of reasons, are urging the Commission either to abandon parts of the proven DTV standard or *not* to set a standard at all -- represent the opinions of a small but vocal minority of special interests who seem to lose sight of the main purpose of this proceeding -- to set standards for digital *television*. Some, amazingly, went as far as to propose a different approach that would implement only a single standard-definition digital television (SDTV) format, relying on unsubstantiated and dubious technical claims and vagaries of the marketplace to allow for any possible future extensions of the standard.

At the 11th hour, certain factions within the computer industry and academic community have raised unfounded concerns about the interoperability of the ATSC standard and its role in the emerging convergence of consumer electronics and computer technology. Zenith views such detractors, who base their assumptions on unproven calculations without the benefit of even laboratory hardware (compared with the ATSC standard whose performance has been

proven in extensive laboratory and field testing), as a last minute attempt to derail this nine-year process for their own self interests.

Indeed, technological convergence already is under way. We at Zenith are pushing such convergence in the analog television world today with new TV receivers that feature built-in Internet-surfing and e-mail capabilities, products that provide high-quality computer scan conversion for data display on large-screen NTSC receivers, and very-large-screen multiscan projection HD display monitors for commercial and residential applications. Others in both the consumer electronics and computer industries are helping drive this convergence with similar products with varying levels of computer-like functionality.

Television sets and computers, while sharing an increasing amount of functionality today (and, we would add, an increasing amount of future commonality with the advent of DTV) will continue to be separate devices. The home of the future will continue to have a place where an individual does work on a PC and a place where family and friends gather to be entertained on a large-screen TV receiver. The emergence of "infotainment" devices such as our Web-browsing TV, brings these functions closer together, but retains the primary function of the television set as an entertainment device, albeit a more capable and interactive entertainment device.

The establishment of the ATSC DTV standard will accelerate this convergence -- by providing a huge digital pipeline (19-megabit-per-second broadcast data delivery in a 6-MHz channel and more than twice that on cable systems),

and by placing large-screen high-resolution display devices into tens of millions of American homes. It is unfortunate that some members of the computer industry and others -- all of whom have had opportunities to participate in the nine-year process to establish the DTV standard -- refuse to acknowledge the tremendous flexibility, interoperabilty and future extensibility of the ATSC DTV standard. Moreover, their all-or-nothing arguments for progressive scanning and paper proposals for non-HDTV approaches show a lack of appreciation for the process that has strongly encouraged and nurtured for almost a decade by the Commission under five chairmen. America's consensus-driven process, led by industry with strong oversight and leadership from the Commission and its Advisory Committee on Advanced Television Service, has yielded world-leading digital technology that represents, without a doubt, the most computer-friendly television broadcast system in the world.

For the Commission to give credence whatsoever to a last-minute paper proposal without substantiated scientific evidence would be ludicrous. The standard must be a *proven* standard. The broadcast and consumer electronics industries have invested hundreds of millions of dollars and millions of person-hours by the best technical talent to support the exhaustive development, evaluation and testing of real hardware for proposed DTV systems. The test results and the recommendation of the Advisory Committee speak for themselves about the superiority of the world-class technology at the heart of the ATSC DTV standard.

Similarly, comments by the few who believe SDTV is good enough are frankly insulting to the American public, which demands high quality. Consider the strong growth of large-screen home theater TV systems and digital direct broadcast satellite, among other high-end consumer electronics products. Our market research points to the strong acceptance of digital HDTV, driven by availability of programming, particicularly sports and movies in HDTV. There is no question that the standard must include HDTV from day one. The quantum improvements in video and audio quality will motivate consumers to invest in DTV, and will allow local, free, over-the-air broadcast television to compete with other delivery media for decades to come.

As with the computer industry, concerns about interoperability with other media also are unfounded. The cable industry's lack of support for the establishment of any standard is understandable, yet the Commission should be mindful of the cable industry's significant contributions throughout the process and the tremendous interoperability achievable between terrestrial and cable transmission based on the ATSC DTV standard. Even if the Commission chooses not to impose the DTV standard on the cable industry, it is imperative that industry efforts in compatibility and standards continue, and in fact accelerate, to assure early availability of digital television, including HDTV, over all media.*

* In the case of direct broadcast satellite (DBS), in response to one commenter, we would point our that the VSB digital modulation system was not defined or intended for DBS.

Regarding receiver standards, we reiterate our original comments, joined by dozens of other commenters, that marketplace forces (and, if necessary, voluntary standards for minimal receiver requirements developed with the ATSC and the Consumer Electronics Manufacturers Association) will assure that ASTC-compliant receivers operate as advertised. And, as before, we believe it is totally unnecessary for the Commission to impose a requirement that all digital receivers receive all ATSC DTV formats. Market demands and product differentiation will make it desirable to have the option of employing a variety of *display* modes. Yet, it is important to point out again that Zenith plans to produce DTV receivers capable of *receiving* all DTV formats, as do other manufacturers.

As a company involved in the HDTV process for nearly a decade, ** Zenith has invested tens of millions of dollars (during periods of significant corporate losses) based on commitments by our government to adopt a new broadcast standard that will significantly upgrade and substantially preserve free, over-the-air television. Denying industry the opportunity to carry through on these investments is at the very least a breach of faith, worse yet a travesty on the American viewing public.

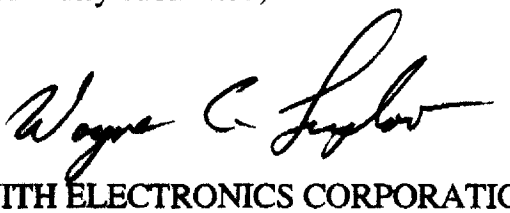
** Zenith has been actively involved in HDTV research since 1987. We were the first TV manufacturer to serve on the Advisory Committee on Advanced Television Service and were one of the original proponents submitting proposals to the Advisory Committee in 1988. Zenith's proposal pioneered the concept of simulcasting HDTV programming on previously unusable taboo channels during the transition to advanced television, a concept adopted by the Commission in 1990 as a means of moving to ATV without allocating any additional spectrum to television service and paving the way for the eventual recovery of large nationwide blocks of very valuable spectrum. Zenith also was a strong early proponent of computer-friendly progressive-scanning and square pixels.

Zenith joined forces in 1989 with AT&T to develop HDTV technologies and we jointly developed an all-digital HDTV system that was merged with three others to create a best-of-the-best HDTV system with the formation of the Digital HDTV Grand Alliance in May 1993. The Grand Alliance subsystems for digital transmission -- the eight-level vestigial sideband (8-VSB) system for terrestrial broadcast and the high-data-rate 16-VSB system for the more robust cable channel (which delivers twice the data rate as 8-VSB) are proven Zenith contributions that provide world-class performance for the ATSC DTV standard.

Ironically, other digital television standards, which are far less interoperable with computers and telecommunications, are nearing commercial implementation in the marketplace here and abroad, while the Commission hears unfounded and unsound complaints about features already included in the ATSC standard.

Now is the time for the Commission to act. The Commission should not be deterred by the loud, but unfounded objections of a handful of self-interested detractors, but should adopt the standard, and allocate and assign the loaned digital transition channels to broadcasters immediately. Only then will broadcasters and manufacturers have the certainty and direction necessary to deliver the promise of digital television to American viewers.

Respectfully submitted,



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August 12, 1996